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STATE BRIDGE NO. 456  
Walker School Road (Road 45),  
spanning Sawmill Branch  
Townsend Vicinity  
New Castle County  
Delaware

HAER No. DE-53

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
National Park Service  
Philadelphia Support Office  
U.S. Custom House  
200 Chestnut Street  
Philadelphia, PA 19106

HISTORIC AMERICAN ENGINEERING RECORD  
STATE BRIDGE NO. 456

HAER No. DE-53

**LOCATION:** Walker School Road (Road 45), spanning Sawmill Branch, Townsend vicinity, New Castle County, Delaware.

USGS Smyrna, DE Quadrangle. UTM Coordinates:  
18.448230.4358430

**DATE OF CONSTRUCTION:** 1934

**BUILDER:** Spear-Jones and Company (Dover, Delaware), for New Castle County

**PRESENT OWNER:** Delaware Department of Transportation

**PRESENT USE:** Highway bridge

**SIGNIFICANCE:** Bridge No. 456 is representative of a historic Delaware bridge type: the two-span beam-on-pile-bent timber bridge. Though built frequently in the state during the nineteenth and early twentieth centuries to carry roads over creeks of moderate size, the two-span form of the beam-on-pile-bent type does not survive in such numbers as does the smaller single-span timber bridge.

**PROJECT INFORMATION:** A July 1996 evaluation of Bridge No. 456 resulted in a recommendation of replacement. This recordation project was undertaken pursuant to an agreement between DelDOT and the Delaware State Historic Preservation Office. Bridge No. 456 was recorded in November 1996 by the Cultural Resource Group of Louis Berger & Associates, Inc., East Orange, New Jersey, for DelDOT. Photography was performed by Rob Tucher, Senior Photographer. Research was conducted by Philip E. Pendleton, Architectural Historian.

## DESCRIPTION

State Bridge No. 456 is a two-span timber bridge of the beam-on-pile-bent type. Located in Blackbird Hundred, New Castle County, it carries Walker School Road (Road 45) across Sawmill Branch. The bridge's setting is a rural one of active farms and a limited amount of recent exurban residential development.

Thirty-one feet in length and twenty-two feet in width, the two-span bridge carries two lanes of traffic. The main supporting substructure consists of three bents, each comprising seven one-foot-diameter piles with a ten-by-twelve-inch header. Eleven six-by-fourteen timber stringers support the deck, which is made up of four-by-ten planks. The abutments also consist of four-by-ten planks, with flared stone-masonry wing walls laid up in semi-coursed rubble. Two-by-four wooden rails supported by four-by-six posts serve as a parapet.

## HISTORY OF BRIDGE NO. 456

State Bridge No. 456 was constructed in 1934 for the New Castle County government, to replace an earlier bridge that had been washed out (HABS/HAER 1988). As of November 1996, it was slated for replacement with a modern structure.

The vicinity of the bridge location began to be settled by Europeans in significant numbers circa 1700. The production of wheat for export emerged as southern New Castle County's economic mainstay and remained so until around 1870. The area saw the rise of a briefly prosperous orchard industry, especially for peach cultivation, after 1856, when the opening of the Delaware Railroad from Wilmington to Dover facilitated shipment of the perishable fruit. By the 1870s, however, the failure of local farmers to mount the intensive effort necessary for proper orchard cultivation and harvest had led to a decline in this form of agriculture. The decline of orchard husbandry was matched by the demise of the region's winter wheat business in the face of rising competition from the spring wheat crops of the upper Midwest and northern Plains. The agricultural economy of southern New Castle County entered a long depressed period from which it slowly emerged in the course of the twentieth century. However, it never regained the burgeoning prosperity it experienced in the early and mid-nineteenth century (Herman 1986:2-8, 124-27). The area's landscape remains largely dominated by general farming, including livestock raising and grain and truck crop cultivation.

The date of construction for the structure that preceded the present bridge is unknown. A survey of southern New Castle County's bridges, conducted in 1903, identified this site as "Bridge on road back of Eagle's Nest [Landing Road] via Walker's School House," and noted that the bridge was constructed of wood (or mainly wood) (New Castle County Bridge Book 1903). This reference suggests that the bridge in place before 1934 was of similar construction to the present one. The road itself, in regard to its creation as a public road, is evidently much older than 1903. There is no reference to its establishment in the county road dockets that begin with the year

1794, although the road is depicted on an 1849 map (New Castle County Court of General Sessions Road Dockets; Rea and Price 1849).

The construction of Bridge No. 456 was one small element in a sustained program of road improvement that transformed the Delaware landscape in the quarter-century between 1917 and 1942. As in other states, a Good Roads Movement had taken shape during the century's first decade. T. Coleman duPont, one of the state's wealthiest citizens, had so warmed to this aspect of Progressivism that he had commenced highway improvements in 1911 under his own volition, obtaining a charter from the state and completing a modern road in Sussex County from Selbyville to Georgetown by 1917. Following duPont's lead, the state legislature enacted the Highway Act of 1917, establishing the State Highway Department, the State Aid Road Law of 1919, authorizing the counties to issue highway bonds enabling them to match state highway funds, and a gasoline tax in 1923 to provide further revenues for road construction and maintenance. By 1926, with 588 miles of modern roadway built since 1917, "every town and hamlet in the state was connected to the state highway system with a hard surfaced road," according to Warren Mack, a former chief engineer for the State Highway Department (Mack 1947:539-48).

Between 1926 and 1935, the highway authorities concentrated on developing a system of improved secondary highways to improve local transportation in the countryside and in northern Delaware's growing suburban areas. An additional 651 miles of state highway were built, while New Castle County constructed some 200 miles of hard-surfaced road. Kent and Sussex counties concentrated on improving their dirt roadways during these years. The state pressed on with a major program for the improvement of secondary roadways after 1935, when the legislature directed the State Highway Department to take over administration of the three counties' approximately 2,600 miles of county roads. By 1942, 450 more miles of roadway were asphalted, and dirt roads throughout the state were improved. The construction of new bridges formed a major aspect of the 1935-1942 secondary road improvement project, with over 250 built during the seven-year period (Mack 1947:548-49).

The building of the present Bridge No. 456 in 1934 was a harbinger of the extensive program of bridge construction for secondary highways that would take place throughout the state over the following eight years. The contractor for the bridge's construction was Spear-Jones and Company of Dover. The design drawings specified a slight realignment of the roadway and a load capacity for the bridge of a 15-ton truck load (HABS/HAER 1988). The plans also directed that creosoted timber be employed, with the piles receiving 12 pounds of No. 1 creosote oil and the structural timber receiving eight pounds. The builders were to use southern yellow pine, douglas fir, oak, or southern cypress (DelDOT Plan Files). The bridge required significant repairs due to its general condition by 1973, the year in which its replacement was considered but was decided against. Instead, its legal load limit was reduced to 15 tons while repairs were

completed. Similar load reductions and repairs were made in 1978, because of deterioration at the ends of the stringers; in 1988, 1990, and 1992, because of the bridge's general condition; and in 1995, due to severe general deterioration (DelDOT Maintenance Files).

Bridge No. 456 is a representative example of a two-span beam-on-pile-bent timber bridge. The beam-on-pile-bent timber bridge is a relatively simple and traditional type that has been long and commonly employed in Delaware to span creeks for secondary roads. Two-span structures of this type, however, have not been built in the state nearly as frequently as smaller single-span examples, and fewer have survived to the present (HABS/HAER 1988). Bridge No. 456 is thus significant for its representation of a less common form of a historic Delaware bridge type.

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